

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A radiation image information reading apparatus comprising:
a linear light source for linearly emitting an excitation light to an area on a front side of a stimulating phosphor sheet having radiation image recorded therein;

detection means comprising a plurality of line sensors, each of the line sensors comprising a plurality of photoelectric conversion devices arranged in a lengthwise direction of the area in the sheet where the excitation light is linearly irradiated for carrying out photoelectric conversion by receiving light emitted from the area on the front side of the sheet or from an area on the backside of the sheet corresponding to the area on the front side, the line sensors being placed in the lengthwise direction as well as in a direction perpendicular to the lengthwise direction so that the photoelectric conversion devices of at least one of the line sensors can receive the light;

scanning means for causing either a combination of the linear light source and the detection means or the sheet to have movement relative to the other in a direction different from the lengthwise direction;

reading means for obtaining initial image data by sequentially reading outputs from the photoelectric conversion devices of the detection means in accordance with the movement; and

integration processing means for carrying out a first conversion process to generate ~~pixel~~ data corresponding to pixels ~~divided in the lengthwise direction in the case where only one of the outputs in the initial image data~~ located in areas where only one pixel output is available for an a particular area where the excitation light is irradiated which is irradiated by the excitation light, and to generate ~~the pixel~~ data corresponding to the pixels ~~divided in the lengthwise direction by adding two or more of the outputs in the case where the two or more of the outputs are available for an area in the area where the excitation light is irradiated~~ located in areas where two or more pixel outputs are available for a particular area which is irradiated by the excitation light by adding two or more of the outputs and for carrying out a second conversion process to generate data of a final image by ~~adding~~ combining the pixel data arranged over a predetermined number of pixels consecutively lined in a lengthwise direction.

2. (original): A radiation image information reading apparatus as defined in Claim 1, wherein the integration processing means carries out the second conversion process after carrying out the first conversion process.

3. (original): A radiation image information reading apparatus as defined in Claim 1, wherein the integration processing means carries out the first conversion process and the second conversion process concurrently.

4. (original): A radiation image information reading apparatus as defined in any of Claims 1 to 3, further comprising equalization processing means for carrying out an equalization process on the data that have been processed by the integration processing means.

5. (original): A radiation image information reading apparatus as defined in Claim 4, wherein the equalization processing means carries out at least two correction processes from among the following: dark current correction processing, sensitivity correction processing, linearity correction processing, and shading correction processing.

6. (new): A radiation image information reading apparatus comprising:
a linear light source for emitting excitation light to an area of a phosphor sheet having a radiation image recorded therein;
detection means comprising a plurality of line sensors each comprising
a plurality of photoelectric conversion devices arranged in a lengthwise direction;
the photoelectric conversion devices of the line sensors arranged such that the photoelectric conversion devices of one line sensor are staggered with those of another line sensor, so that the photoelectric conversion devices of at least one of the plurality of line sensors can receive light emitted from the area of the phosphor sheet stimulated with excitation light;
scanning means for causing either a combination of the linear light source and the detection means or the sheet to have movement relative to the other in a direction different from the lengthwise direction;
reading means for obtaining initial image data by sequentially reading outputs from the photoelectric conversion devices of the detection means in accordance with the movement; and
integration processing means

for carrying out a first conversion process to generate data corresponding to pixels located in areas where output from the pixels is received by only one photoelectric device and to generate data corresponding to pixels located in areas where output from the pixels is received by two or more photoelectric conversion device by adding the outputs received by two or more of the photoelectric conversion devices and

for carrying out a second conversion process to generate data of a final image by combining the pixel data from a predetermined number of pixels lined in the lengthwise direction.